#### PATENT COOPERATION TREATY

# **PCT**

#### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 031214PCT	FOR FURTHER ACTION	See item 4 below
International application No. PCT/JP2005/002497	International filing date (day/month/year). 17 February 2005 (17.02.2005)	Priority date (day/month/year) 18 February 2004 (18.02.2004)
International Patent Classification (8th See relevant information in Form F	edition unless older edition indicated) CT/ISA/237	
Applicant DAI NIPPON PRINTING CO., LTD		

	. •		· .
1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).		
2.	This REPORT consists of a tota	of 5 sheets, including this cover sheet.	
	In the attached sheets, any refere to the international preliminary		the International Searching Authority should be read as a reference er I) instead.
3.	This report contains indications	relating to the following items	3:
عر	Box No. I	Basis of the report	
	Вох №. П	Priority	
	Box No. III	Non-establishment of opiniapplicability	ion with regard to novelty, inventive step and industrial
	Box No. IV	Lack of unity of invention	
	Box No. V		Article 35(2) with regard to novelty, inventive step or industrial explanations supporting such statement
	Box No. VI	Certain documents cited	
	Box No. VII	Certain defects in the inter-	national application
	Box No. VIII	Certain observations on the	e international application
4.	The International Bureau will conot, except where the applicant date (Rule 44bis .2).	ommunicate this report to designakes an express request undo	gnated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but er Article 23(2), before the expiration of 30 months from the priority
			Date of issuance of this report 19 September 2006 (19.09.2006)
-	The International Bure 34, chemin des Col 1211 Geneva 20, Sv	lombettes	Authorized officer  Masashi Honda
Facsir	Facsimile No. +41 22 338 82 70		e-mail: pt08@wipo.int

Form PCT/IB/373 (January 2004)

#### PATENT COOPERATION TREATY.

Dote of mailing   CPCT, Rule 43bis.1)	From the INTERNATIONAL SEARCHING AUTHORI	ITY		W.S.
Applicant's or agent's file reference  331214PCT  International application No.  PCT/JP2005/002497  17.02.2005  International Political (IPC) or both national classification and IPC  Applicant  DAI NIPPON PRINTING CO., LTD.  1. This opinion contains indications relating to the following items:  Box No. II Priority  Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  Box No. IV Lack of unity of invention  Box No. IV Certain documents cited  Box No. VI Certain documents cited  Box No. VII Certain documents cited  Box No. VIII Certain observations on the international application  Polyminary Examinary Examination is made, this option will be considered to be a written opinion of the International Preliminary Examinary Examination is made, this option will be considered to be a written opinion of the International Preliminary Examinary Examination is made, this option will be considered to be a written opinion of the International Preliminary Examinary Examination is made, this option will be considered to be a written opinion of the International Preliminary Examinary Examination is made, this option will be considered to be a written opinion of the International Preliminary Examinary Examination is made, this option will be considered to be a written opinion of the International Preliminary Examinary Examination is made, this option is, as provided above, considered to be a written opinion of the IPEA written reply) together, where appropolate, with amendments, before the expiration of 3 months from the date of mailing of Fur PCT/SA/2200 to before the capitation of 22 months from the priority date, whichever expires later.  For further options, exc form PCT/SA/2200.				PCT PTON
Applicant's or agent's file reference  031214PCT  International application No.  PCT/JP2005/002497  International filing date (day/month/year)  Priority date (day/month/year)  International paptication No.  PCT/JP2005/002497  International Patent Classification (IPC) or both national classification and IPC  Applicant  DAI NIPPON PRINTING CO., LTD.  1. This opinion contains indications relating to the following items:  Box No. II Basis of the opinion  Box No. II Priority  Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  Rox No. IV Lack of unity of invention  Box No. IV Lack of unity of invention  Box No. V Reasoned datement under Rule 43bis. 1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement  Box No. VI Certain documents cited  Box No. VIII Certain defects in the international application  Box No. VIII Certain observations on the international application  FURTHER ACTION  If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the finternational Perliminary Examining Authority (PIPEA'') except that this does not apply where the applicant chooses an Authority obth than this one to be the IPBA and the chosen IPBA has notified the International Bureau under Rule 66. His/siby that written opinions of this International Searching Authority will not be so considered.  If this opinion is, as provided above, considered to be a written opinion of the IPFA, the applicant is invited to submit to the IPFA written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Fore PCT/ISA/2200 erbect the expiration of 22 months from the priority date, whichever expires later.  For further options, see Form PCT/ISA/220.	•			RITTEN OPINION OF THE
Applicant's or agent's file reference 03.12.14PCT  International application No PCT/JP2005/002497  17.02.2005  International application No PCT/JP2005/002497  International Patent Classification (IPC) or both national classification and IPC  Applicant  DAI NIPPON PRINTING CO., LTD.  1. This opinion contains indications relating to the following items:  Box No. I Basis of the opinion Box No. II Priority Box No. IV Lack of unity of invention  Box No. IV Lack of unity of invention  Box No. V Reasoned statement under Rule 43bis. I(a)(i) with regard to novelty, inventive step and industrial applicability; cliations and explanations supporting such statement  Box No. VI Certain documents cited Box No. VII Certain documents cited Box No. VIII Certain observations on the international application  FURTHER ACTION  If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Scarching Authority ("IPEA") except that this does not apply where the applicant toops can Authority on than this one to be the IPIA and the chosen IPEA has notlified the Iternational applicant is invited to submit to the IPIA written ceptor to generate the applicant is not be performed to a written opinion of the IPIA, the applicant is provided above, considered to a written opinion of the PEA, the applicant is invited to submit to the IPIA written ceptor together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of For PCTISA/2200 to before the expiration of 22 months from the priority date, whichever expires later.  For further details, see notes to Form PCT/ISA/220.				(PCT Rule 43bis.1)
D31214PCT   International application No.   International filing date (day/month/year)   Priority date (day/month/year)   17 . 02 . 2005   18 . 02 . 2004			_	
International application No.  PCT/JP2005/002497  International filing date (day/month/year)  17.02.2005  International Patent Classification (IPC) or both national classification and IPC  Applicant  DAI NIPPON PRINTING CO., LTD.  1. This opinion contains indications relating to the following items:    Box No. 1   Basis of the opinion	Applicant's or agent's file reference		FOR FURTHER A	ACTION
Interruptional Patent Classification (IPC) or both national classification and IPC	031214PCT			See paragraph 2 below
International Patent Classification (IPC) or both national classification and IPC  Applicant  DAI NIPPON PRINTING CO., LTD.  1. This opinion contains indications relating to the following items:    Box No. 1   Basis of the opinion		International filing date (a	lay/month/year)	
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	If a demand for international preling International Preliminary Examining International Preliminary Examining International Preliminary Examining International Searching Authority If this opinion is, as provided above, written reply together, where approp PCT/ISA/220 or before the expiration	Authority ("IPEA") except chosen IPEA has notified will not be so considered. considered to be a written riate, with amendments, of 22 months from the pri	that this does not app the International Burd n opinion of the IPEA before the expiration	oly where the applicant chooses an Authority other eau under Rule 66.1 bis(b) that written opinions of A, the applicant is invited to submit to the IPEA a of 3 months from the date of mailing of Form
Name and mailing address of the ISA/JP  Authorized officer	3. For further details, see notes to Form I	PCT/ISA/220.		
·	Name and mailing address of the ISA/JP		Authorized officer	•
Facsimile No. Telephone No.	Facsimile No.		Telephone No.	

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/JP2005/002497

Вох	No. I	Basis of this opinion
1.		regard to the language, this opinion has been established on the basis of the international application in the language in which it was unless otherwise indicated under this item.
<b>'</b>		This opinion has been established on the basis of a translation from the original language into the following language, which is the language of a translation furnished for the purposes of international search (under
	-	Rule 12.3 and 23.1(b)).
2.		regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed attion, this opinion has been established on the basis of:
	<b>a</b>	type of material
*		a sequence listing
		table(s) related to the sequence listing
	b.	format of material
	,	in written format
		in computer readable form
	c.	time of filing/furnishing
		contained in the international application as filed.
		filed together with the international application in computer readable form.
		furnished subsequently to this Authority for the purposes of search.
3.		In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4.	Addi	itional comments:
		•
	-	

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No. PCT/JP2005/002497

•	Statement			
	Novelty (N)	Claims	5-14	Y
		Claims	1-4 .	N
	Inventive step (IS)	Claims	5-14	· · · Y
		Claims	1-4	·
	Industrial applicability (IA)	Claims	1-14	Y
	•	Claims		

Document 1: JP 40-026525 B1 (NGK Insulators, Ltd.), 17 November 1965

(1) The inventions relating to claims 1-4 do not appear to be novel based on document 1 cited in the ISR.

Document 1 discloses an artificial corundum crystal having a face 1011 (corresponding to a face 101) containing a seed crystal and a face 1120 (corresponding to a face 110), and an artificial corundum crystal (see Fig. 2(B)) corresponding to a hexagonal dipyramid.

Document 1 discloses a colorless artificial corundum crystal containing a seed crystal and an artificial corundum crystal comprising K<sub>2</sub>CrO<sub>4</sub> added thereto as a colorant.

(2) The inventions relating to claims 5-14 appear to be novel and involve an inventive step over the documents cited in the ISR. A method for producing an artificial corundum crystal forming a hexagonal dipyramid as a basic shape by a flux evaporation method is not disclosed in any of the documents.

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

Certain observations on the international application

Βοχ Νο. ΥΠΙ

International application No.
PCT/JP2005/002497

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The crystal face of the invention relating to claim 1 is unclear in whether it indicates a facet that has become notable as a result of crystal growth or a specific crystal face having a crystal structure identified by X-ray diffraction.